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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,537	02/10/2004	Patrick Ward	25968	1103
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NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314				
			EXAMINER DANG, ROBERT TRONG	
			ART UNIT 2838	PAPER NUMBER

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/774,537

Applicant(s)

WARD, PATRICK

Examiner

Robert T. Dang

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply -

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This action replaces the previous 3/9/2006 action of with this action to run with a new statutory period starting with the mailing of this action, in order to clarify the previous office action.

#### ***Drawings***

1. The drawings are objected to because Figs 1-3b fail to disclose that they are prior art drawings as mentioned in the specifications. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. All embodiments include a transformer CT1 in the circuit, where the double-grounded neutral delay circuit is connected to the transformer CT1, which appears to aid in detection. Thus there is no support for such a circuit not having a transformer.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, it is not clear if "such current" (line 8) and "the current," line 10 refers to current on line 2 or "a current" on line 7. Similar issues apply to "current" in claims 1-5, 6 & 9.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

5. Claims 1-3 and 6-11 are rejected under 35 U.S.C. 102(a,b,e,f) anticipated by applicants own acknowledged prior art. Applicant admits the claimed invention as noted below, but the statutory category is not clear.

As to claim 1, APA disclosed in figures 3A-3B, a residual current device including means for sensing a differential current flowing in mains supply live (L) and neutral (N) conductors and for disconnecting the supply from a load when the differential current exceeds a predetermined level, the device further including a circuit for detecting a double grounded neutral fault comprising means for causing a current to flow between the live and neutral conductors, such current being, at least intermittently, of sufficient amplitude and duration as to cause disconnection of the supply by the

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component of the current detected by the sensing means in the presence of a double grounded neutral (see pages 1-5 discussing APA).

As to claim 2, APA discloses in figure 3A-3B, wherein the current is alternately on and off, the amplitude and duration of the current during each on period being sufficient to cause said disconnection, such as the load being connected and disconnected.

As to claim 3, APA discloses in figure 3A-3B, wherein the current alternates between periods of relatively higher and lower amplitude, the amplitude and duration of the current in each higher amplitude period being sufficient to cause said disconnection (see pages 1-5 discussing APA).

As to claims 6-7, APA discloses in figure 3A-3B, wherein the current flows continuously through an impedance ( $Z$ ) connected between the live and neutral conductors. For claim 7, the coil is substantially reactive.

As to claim 10, APA discloses in figure 3A-3B, wherein it depicts the double-grounded neutral detection means is contained in a common housing with the sensing means.

As to claim 11, APA discloses in figure 3A-3B, wherein the double-grounded neutral fault detecting circuit does not include a transformer. Applicant admits at page 5, lines 25-34, of the specification that some circuits do not have a transformer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Clarey et al (6014297)

As to claims 4-5, APA discloses all of the limitations as disclosed above; however, he does not disclose wherein the periods for which the intermittent current flows is determined by a timing circuit powered from the live and neutral conductors. Clarey discloses in his invention where periods for which the intermittent current flows is determined by a timing circuit (see col. 5, lines 29-57). The timing circuit forms part of the forms part of a single integrated circuit, which also responds to a residual current above the predetermined level to initiate the disconnection of the supply. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and add the timing circuit in order to provide a reliable means to identify a double-grounded neutral fault condition and disconnect the power supply in the event it occurs.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Bonilla et al (6697238)

As to claim 9, APA discloses in all of the limitations discussed above; however he does not disclose a means for providing a visual indication when the current is flowing.

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Bonilla discloses in his invention for providing a visual indication when the current is flowing (see claim 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and add the visual indicator in order to provide an adequate means to alert the user that the device is working properly.

### ***Allowable Subject Matter***

8. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

For claims 8, the prior art of record does not disclose or suggest in the claimed combination: an RCD that has a thermal switch that is connected in series with an impedance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert T. Dang whose telephone number is 571-272-8326. The examiner can normally be reached on M-F, 9:00-5:30.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTD

  
KARL EASTHOM  
SUPERVISORY PATENT EXAMINER